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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,522	10/24/2003	Raymond T. Westfall	EES-2	9849
1473	7590	04/04/2005	EXAMINER	
FISH & NEAVE IP GROUP ROPES & GRAY LLP 1251 AVENUE OF THE AMERICAS FL C3 NEW YORK, NY 10020-1105			STULTZ, JESSICA T	
			ART UNIT	PAPER NUMBER
			2873	

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/692,522	WESTFALL ET AL.
	Examiner	Art Unit
	Jessica T. Stultz	2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 27 December 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-100 is/are pending in the application.
- 4a) Of the above claim(s) 35-38, 59, 60, 67-69 and 79-100 is/are withdrawn from consideration.
- 5) Claim(s) 1-34, 49-58, 61-64, 66 and 70-78 is/are allowed.
- 6) Claim(s) \_\_\_\_\_ is/are rejected.
- 7) Claim(s) 39-48 and 65 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 24 October 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    - a) All
    - b) Some \*
    - c) None of:
      1. Certified copies of the priority documents have been received.
      2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
      3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)          |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. <u>0405</u> .  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

## **DETAILED ACTION**

This application is in condition for allowance except for the following formal matters (the objections) set forth below.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

### *Claim Objections*

Claims 39 and 65 (and therefore dependent claims 40-48) are objected to for the following reasons.

Regarding claim 39, lines 9-10, “the real portion of the refractive index” should be changed to “the imaginary portion of the refractive index”, and in lines 11-12, “the real portion of the dielectric constant” should be “the real portion of the refractive index”.

Regarding claim 65, line 1, “the ion conduction layer” should be “the ion insertion layer”.

### *Election/Restrictions*

Applicant’s election of Group I, claims 1-34, 39-58, 61-66, and 70-78 in the reply filed on December 27, 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

***Reasons for Allowance***

The following is an examiner's statement of reasons for allowance: none of the prior art either alone or in combination disclose or teach of the claimed combination of limitations to warrant a rejection under 35 USC 102 or 103.

Specifically in reference to independent claims 1 and 17, none of the prior art alone or in combination disclose or teach of a method for modulating a refractive index of an ion insertion layer in an optical device, wherein the ion insertion layer has a dielectric constant with a real and imaginary portion that change, specifically wherein the absolute difference between the change of the imaginary portion is less than the absolute change of the real portion.

Specifically in reference to independent claims 20 and 70, none of the prior art alone or in combination disclose or teach of a method for modulating a refractive index of an ion insertion layer in an optical device, wherein refractive index has a real and imaginary portion that change, specifically wherein the absolute difference between the difference in the real portion is greater than 0.1 and the difference in the imaginary portion is less than 0.2.

Specifically in reference to independent claim 39, none of the prior art alone or in combination disclose or teach of an iono-refractive device comprising an ion conduction material and an ion insertion material, wherein the ion insertion material has a refractive index with a real and imaginary portion that change, specifically wherein the absolute difference between the change of the imaginary portion is less than the absolute change of the real portion.

Specifically in reference to independent claim 49, none of the prior art alone or in combination disclose or teach of an iono-refractive device comprising an ion conduction material and an ion insertion material, wherein the ion insertion material has a refractive index with a real and imaginary portion that change, specifically, specifically wherein the absolute difference between the difference in the real portion is greater than 0.1 and the difference in the imaginary portion is less than 0.2.

Specifically in reference to independent claim 61, none of the prior art alone or in combination disclose or teach of an apparatus for modulating a refractive index of an ion insertion layer in an optical device, wherein the ion insertion layer has a dielectric constant with a real and imaginary portion that change, specifically wherein the absolute difference between the change of the imaginary portion is less than the absolute change of the real portion.

Specifically in reference to independent claim 64, none of the prior art alone or in combination disclose or teach of an apparatus for modulating a refractive index of an ion insertion layer in an optical device, wherein the refractive index has a real and imaginary portion that change, specifically wherein the absolute difference between the difference in the real portion is greater than 0.1 and the difference in the imaginary portion is less than 0.2.

Specifically in reference to independent claims 73, none of the prior art alone or in combination disclose or teach of a method for modulating a refractive index of an ion insertion layer in an optical device, wherein refractive index has a real and imaginary portion that change, specifically wherein the absolute difference between the difference in the real portion is greater than 0.1 and the absolute difference between the difference in

the imaginary portion is substantially diminished in response to changing the lattice structure.

Specifically in reference to independent claims 76, none of the prior art alone or in combination disclose or teach of a method for modulating a refractive index of an ion insertion layer in an optical device, wherein refractive index has a real and imaginary portion that change, specifically wherein the absolute difference between the difference in the real portion is greater than 0.1 and the absolute difference between the difference in the imaginary portion is substantially diminished in response to annealing the ion insertion layer.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Statz et al, Agrawal et al, Dammel et al, and Yegnanarayanan et al are cited as having some similar structure to the claimed invention.

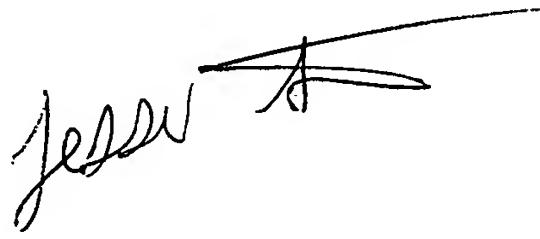
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessica T. Stultz whose telephone number is (571) 272-2339. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jessica Stultz  
Patent Examiner  
AU 2873  
March 31, 2005



JORDAN SCHWARTZ  
PRIMARY EXAMINER